University Coal Research (UCR)/Historically Black Colleges and Universities and Other Minority Institutions (HBCU/OMI) Contractors Review Conference

AGENDA

TUESDAY, JUNE 6, 2006 **GENERAL SESSION - MARQUIS B**

7:00 a.m. Registration and Continental Breakfast - Marquis Foyer

8:00 - 9:00 a.m. **Welcoming Remarks**

Paula Flenory, UCR Program Coordinator, U.S. DOE/NETL

Kamal Das, HBCU Program Coordinator, U.S. DOE/NETL

Robert Romanosky, Technical Manager Power Systems Advanced Research U.S. DOE/NETL

Keynote Address
Dr. Ari Geertsema, Director
University of Kentucky Center for Applied Energy Research (CAER)

Session A - Marquis A

MODERATOR: ***Magda Rivera,*** U.S. Department of Energy, National Energy Technology Laboratory

9:00 - 9:35 a.m. Flashback Characteristics of Syngas Type Fuels Under Steady and Pulsating Conditions
Bobby Noble, **Georgia Institute of Technology**

9:35 - 10:10 a.m. Resilient Sealing Materials for Solid Oxide Fuel Cells
Richard Brow, **University of Missouri-Rolla**

10:10 - 10:45 a.m. Niobium Oxide-Metal Based Seals for High Temperature Applications
Ivar E. Reimanis, **Colorado School of Mines**

10:45 - 11:00 a.m. **Break – Marquis Foyer**

11:00 - 11:35 a.m. Joining Ion Transport Materials Using a Novel Transient Liquid Phase Method
Darryl P. Butt, **Boise State University**

11:35 - 12:10 p.m. Layered Materials as High Temperature Membranes in Hydrogen Production
Theodore Tsotsis, **University of Southern California**

12:10 - 1:25 p.m. **Lunch (on your own)**

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TUESDAY, JUNE 6, 2006 SESSION A - MARQUIS A

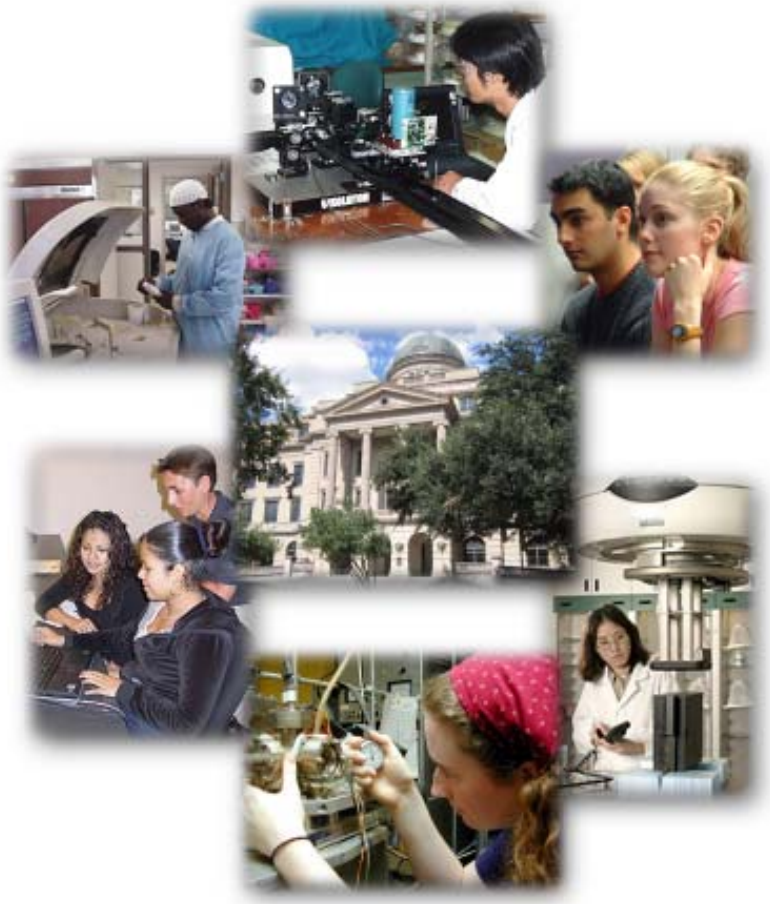
MODERATOR: ***Don Krastman***, U.S. Department of Energy, National Energy Technology Laboratory

1:25 - 2:00 p.m. Pd-Based Metallic Membranes for Hydrogen Separation: First Principles Studies of Separation Mechanisms Aimed at Knowledge-Based Rational Formulations of Improved Materials
Suljo Linic, **University of Michigan**

2:00 - 2:35 p.m. Hydrogen Production from Hydrogen Sulfide in IGCC Power Plants
Burton Krakow, **University of South Florida**

2:35 - 3:10 p.m. Quantum Chemistry for Surface Segregation in Metal Alloys
Lymaire Semidey-Flecha, **Carnegie Mellon University**

3:10 - 5:00 p.m. **Poster Session – Marquis C**



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Session B - Marquis B

MODERATOR: ***John McDowell,*** U.S. Department of Energy, National Energy Technology Laboratory

9:00 - 9:35 a.m. Oxidation of Mercury via Catalytic Barrier Filters – Phase II
Michael Mann, **University of North Dakota**

9:35 -10:10 a.m. Oxidation of Mercury in Products of Coal Combustion
Heng Ban, **University of Alabama at Birmingham**

10:10 - 10:45 a.m. Homogenous and Heterogeneous Reaction and Transformation of Mercury and Trace Metals in Combustion Systems
Joseph J. Helble, **University of Connecticut**

10:45 - 11:00 a.m. **Break – Marquis Foyer**

11:00 - 11:35 a.m. Individual Particle-Analysis of Ambient $PM_{2.5}$ Using Advanced Electron Microscopy Techniques
Masako Morishita, **University of Michigan**

11:35 - 12:10 p.m. In Situ Electrostatic Separation of Ambient $PM_{2.5}$ into Source-Specific Fractions
Naresh Shah, **University of Kentucky**

12:10 - 1:25 p.m. **Lunch (on your own)**

University Coal Research (UCR)/Historically Black Colleges and Universities and Other Minority Institutions (HBCU/OMI) Contractors Review Conference

TUESDAY, JUNE 6, 2006 **SESSION B - MARQUIS B**

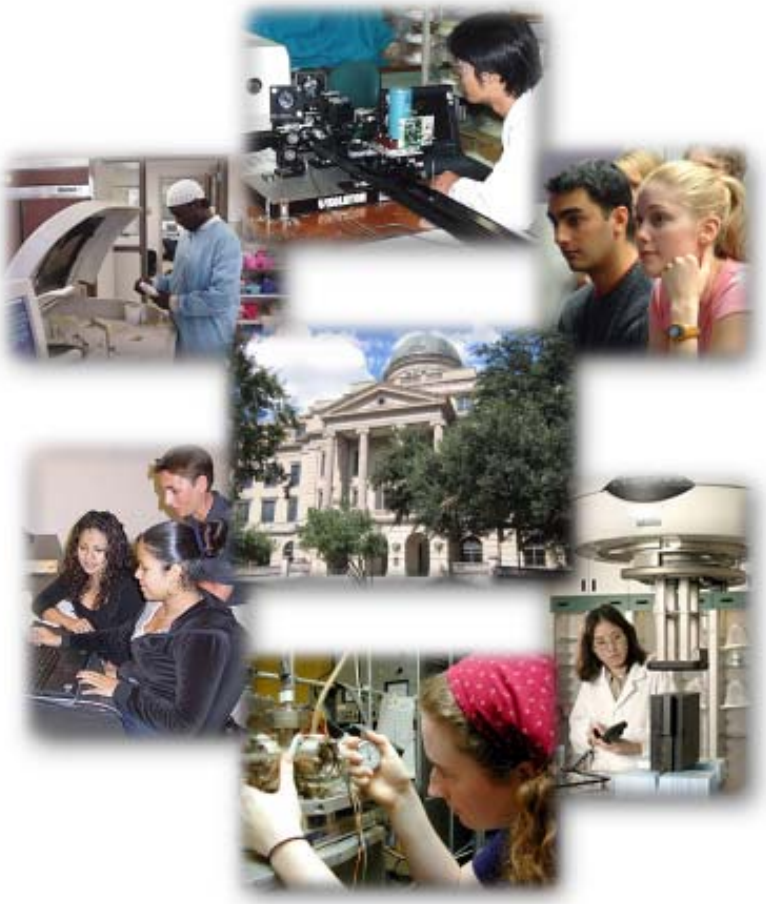
Moderator: ***Robie Lewis,*** U.S. Department of Energy, National Energy Technology Laboratory

1:25 - 2:00 p.m. Novel Carbon Nanotube-Based Nanostructures for High-Temperature Gas Sensing
Hongguo Zhang, **University of Kentucky**

2:00 - 2:35 p.m. Feasibility of a Stack Integrated SOFC Optical Chemical Sensor
Michael Carpenter, **University at Albany - SUNY**

2:35 - 3:10 p.m. Multiplexed Sensor for Synthesis Gas Composition and Temperature
Steven G. Buckley, **University of California, San Diego**

3:10 - 5:00 p.m. **Poster Session – Marquis C**



University Coal Research (UCR)/Historically Black Colleges and Universities and Other Minority Institutions (HBCU/OMI) Contractors Review Conference

WEDNESDAY, JUNE 7, 2006 **SESSION A - MARQUIS A**

7:30 a.m. Continental Breakfast - Marquis Foyer

MODERATOR: ***Suresh Jain,*** U.S. Department of Energy, National Energy Technology Laboratory

8:30 - 9:05 a.m. Computer Aided Design of Advanced Turbine Airfoil for Industrial Gas Turbines In Coal-Fired Environments
Gerhard E. Fuchs, **University of Florida**

9:05 - 9:40 a.m. Chemical Kinetics In Support of Syngas Turbine Combustion
Frederick L. Dryer, **Princeton University**

9:40 - 10:15 a.m. Enhanced High Temperature Corrosion Resistance in Advanced Fossil Energy Systems by Nano-Passive Layer Formation
Arnold R. Marder, **Lehigh University**

10:15 - 10:30 a.m. **Break**

10:30 - 11:05 a.m. Heterogeneous Reburning by Mixed Fuels, Phase II
Wei-Yin Chen, **University of Mississippi**

11:05 - 11:40 a.m. Developing Engineered Fuel (Briquettes) Using Flyash and Biomass
Hüseyin Sarper, **Colorado State University-Pueblo**

11:40 - 12:15 p.m. Surface Area, Volume, Mass, and Density Distribution for Sized Biomass Particles
Charles S. Brown, **Morehouse College**

12:15 p.m. **Adjourn**

University Coal Research (UCR)/Historically Black Colleges and Universities and Other Minority Institutions (HBCU/OMI) Contractors Review Conference

WEDNESDAY, JUNE 7, 2005 SESSION B - MARQUIS B

7:30 a.m. Continental Breakfast - Marquis Foyer

MODERATOR: ***Elaine Everitt,*** U.S. Department of Energy, National Energy Technology Laboratory

8:30 - 9:05 a.m. Mixed-Matrix Membranes for CO_2 and H_2 Separations Using Metal-Organic Frameworks and Mesoporous Hybrid Silicas
Inga H. Musselman, **University of Texas at Dallas**

9:05 - 9:40 a.m. Carbon Dioxide Separation from Flue Gas by Phase Enhanced Absorption
Liang Hu, **Hampton University**

9:40 - 10:15 a.m. Sulfur-Tolerant Palladium-Copper Alloy Membranes for Hydrogen Separation with High Pressure CO_2 for Sequestration
Yi Hua Ma, **Worcester Polytechnic Institute**

10:15 - 10:30 a.m. **Break**

10:30 - 11:05 a.m. Conversion of Hydrogen Sulfide in Coal Gases to Elemental Sulfur with Monolithic Catalysts
Kyung C. Kwon, **Tuskegee University**

11:05 - 11:40 a.m. Development of A Catalyst/Support for Methane Reforming
Thomas D. Wheelock, **Iowa State University**

11:40 - 12:15 p.m. A Radically New Method of Hydrogen Storage in Hollow Glass Microspheres
James E. Shelby, **Alfred University**

12:15 p.m. **Adjourn**